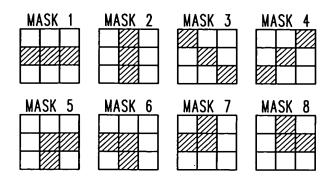


NOISE REDUCED OUTPUT IMAGE



Γ

FIG. 5

k=0	<u>k=1</u>	<u>k=2</u>	<u>k=3</u>
DIAGONAL, LEFT	VERTICAL	DIAGONAL, RIGHT	HORIZONTAL
-1/4	-1/4	-1/4	
1/2	1/2	1/2	-1/4 1/2 -1/4
-1/4	-1/4	-1/4	
<u>k=4</u>	k=5	k=6	k=7
k=4 CORNER, UP-RIGHT	k=5 CORNER, UP-LEFT	k=6 CORNER, LOW-LEFT	k=7 CORNER, LOW-RIGHT
CORNER, UP-RIGHT	CORNER, UP-LEFT		

	k=[0,3]	k=[(),7]	
MINIMUM DIRECTION	%(4HP)	%(8	HP)	MIMIMUM DIRECTION
DIAGONAL LEFT (k=0)	48	20	21	CORNER_UR (k=4)
VERTICAL (k=1)	65	26	18	CORNER_UL (k=5)
DIAGONAL RIGHT (k=2)		14	21	CORNER_LL (k=6)
HORIZONTAL (K=3)	14	21	19	CORNER_LR (k=7)
TOTAL (4HP)	139		160	TOTAL (8HP)

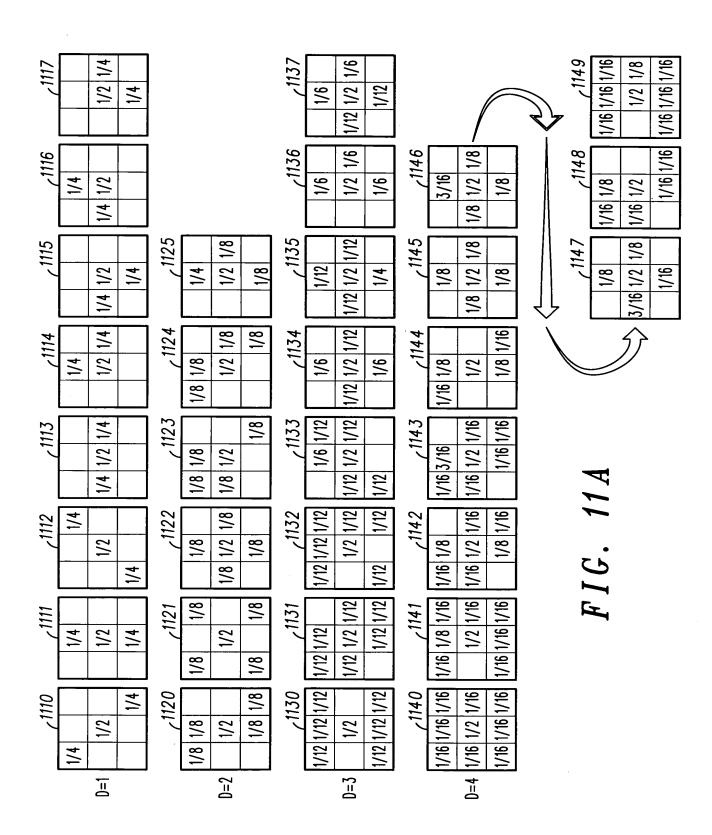
D=[1,4]	1	1	1	1 1 1		1 1 6 1 1	1	1 1 1	1 1 8 1 1 1		F I	G	•	8.	A	
D=[5,8]	1 2 2 10 2	2	1 2 1	1 1 12 2 2 1		3 3 14 1 3	1 3	1 1	3 1 16 3 3 1		F .	I G	7.	8	В	
	2.4	1/4	4.10			1/4				1/4						
	D=1		1/2	1/4		1/2		1/4	1/2		1/4	1/2	1/4			
1/8 1/	8	1/8		1/8	1/8	_			1/8	1/8		1/8				1/8
D=2 1/			1/2		1/8	1/2	1/8		1/2		1/8	1/2	├	1/8	1/2	1/8
1/	8 1/8	1/8		1/8			1/8	1/8	1/8			1/8		1/8		
		1/12	1/12	1/12	1/12	1/12			1/12	1/12	1/12		1/12			
	D=3		1/2		1/12	1/2	1/12	1/12	1/2	1/12	1/12	1/2	1/12			
		1/12	1/12	1/12		1/12	1/12	1/12	1/12		1/12		1/12			
		1/16	1/16	1/16												
	D=4	1/16	1/2	1/16					F	IG	Y	Q)			
		1/16	1/16	1/16					_		•	J	•			

D		CC	EFFI	CIEN	IT V	ALUE	S FO	R N	JMBE	₹ OF	EQI	JAL	DIRE	CTIO	NS		N
1	1/2	1/4			3/20			1/10									8
2	1/2	1/4				1/8											28
3	1/2	1/4		1/6						1/12							56
4	1/2		3/16			1/8						1/16					70
5	1/2				3/20			1/10					1/20				56
6	1/2					1/8				1/12				1/24			28
7	1/2		L				3/28				1/14				1/28		8
8	1/2								3/32					-	_	1/32	1

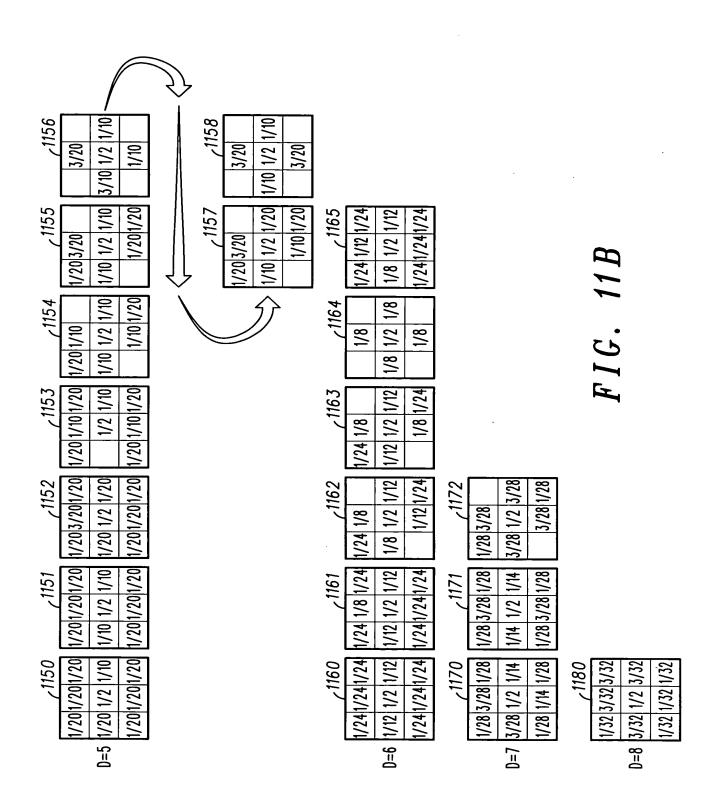
 \overline{FIG} . 10

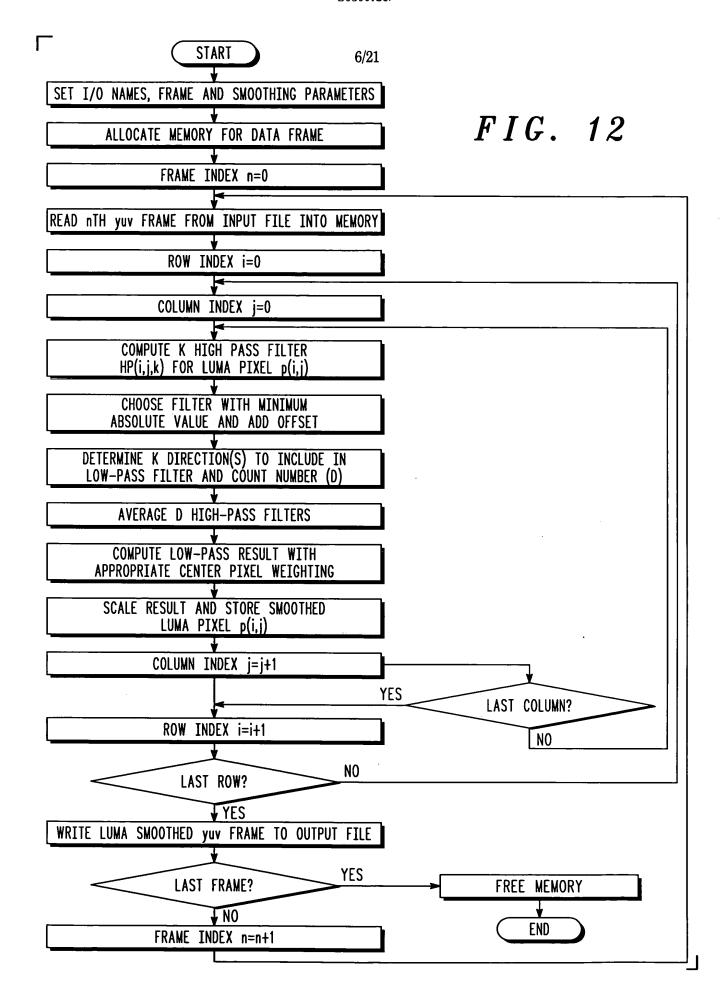
Г

4/21



Г





D=1	D=2	D=3	D=4		
0 -1 0	0 -1 0	-1 -1 0	-1 -1 -1		
0 2 0	-1 -4 -1	-1 6 -1	-1 8 -1		
0 -1 0	0 -1 0	0 -1 -1	_1 -1 -1		
0 60 0	0 30 0	20 20 0	15 15 15		
0 138 0	0 136 0	20 136 20	15 136 15	$T : T \cap C$	40
0 60 0	0 30 0	0 20 20	15 15 15	FIG.	13

VERTICAL	DIAGONAL LEFT	DIAGONAL RIGHT	HORIZONTAL
-1/4	-1/4	-1/4	
1/2	1/2	1/2	-1/4 1/2 -1/4
-1/4	-1/4	-1/4	

M1 H G F E D C B A UP (ROW i-1)		
M2 Q P O N M L K J MID (ROW i)		
M3 Z Y X W V U T S DWN (ROW i+1)	FIG.	15

 Γ

	=	9	6 F E D C B	ш	Q	ပ	æ	¥	WERTICAL
	2	>	×	*	۸	n	_	S	DIRECTION
AVERAGE	(H+Z)/2	(G+Y)/2	(F+X)/2	(E+W)/2	(D+V)/2	(H+Z)/2	(H+Z)/2	(H+Z)/2	
MAXIMUM	Q OR HZ	P OR GY	MAXIMUM Q OR HZ P OR GY O OF FX N OR EW N OR DV L OR CU K OR BT J OR AS	N OR EW	M OR DV	L OR CU	K OR BT	J OR AS	·
MINIMIN	Q OR HZ	P OR GY	0 OF FX	N OR EW	M OR DV	L OR CU	K OR BT	J OR AS	
MAX-MIN	MAX-MIN VABS7	VABS6	VABS5	VABS4	VABS3	VABS2	VABS1	VABSO	VABS4 VABS3 VABS2 VABS1 VABS0 ABS(HIGH PASS)
MID-MIN?	VSGN7	VSGN6	VSGN5	VSGN4	VSGN3	VSGN2	VSGN1	VSGNO	VSGNO SGN(HIGH PASS)

FIG. 16

17						9/2	21						
FIC	• • • • • • • • • • • • • • • • • • • •						RIGHT ON			LEFT	NO:	۔	_
三	0-0	17-17	PRV		۲		DIAGONAL RIGHT DIRECTION] DIAGONAL	DIRECTION] HORIZONTA	DIRECTION
V V	<u> </u>	S	0			F			<u> </u>		→	0	×
8	×		A	0	A	n			n	J	S		
٥	7) D	8	0	8	۸			>	٥		¥	2
٥	2	>	ပ	0	3	*			*	u	>		Z
u	z	*	٥	0	0	×			×	L.	>	×	0
L	0	×	u	0	3	>-			>	9	*	2	ط
9	Ь	>	<u>. </u>	0	4	7	7	Z	Z	=	×	0	0
Ξ	o	Z	9	0	9	0	0	+5	15+5	//¥#///	>	مـ	—+F
M1	M2 3+	M3 S+	NXT LEFT SHIFT 8 BITS	SAVED BYTE	BYTEWISE ADD [RIGHT SHIFT 8 BITS	EXTRACT WORD	SHIFTED NEW BYTE	INSERT WORD				

							UPPER 4 BYTES	LOWER 4 BYTES	8 LP FILTER BYTES
V4 OR 0	SUM4	Z	N	4*LPF4	0X2	4*LPF4+2	LPF4	LPF0	LPF0
VSGN4	SGN4	0SGN	N9S0	N9S0		0SGN	0SGN	N9S0	LPF1
V5 OR 0	SUM5	0	0	4*LPF5	0X2	4*LPF5+2	LPF5	LPF1	LPF2
VSGN5	SGN5	0SGN	N9S0	N9S0	0	OSGN	0SGN	N9S0	LPF3
V6 OR 0	SUM6	٩	P 0	4*LPF6	0X2	4*LPF6+2	LPF6	LPF2	LPF4
VSGN6	SGN6	OSGN	N9S0	N9SO		N9S0	0SGN	OSGN	LPF5
V7 OR 0	SUM7	0	0	4*LPF7	0X2	4*LPF7+2	LPF7	LPF3	LPF6
VSGN7	SGN7	0SGN	N9S0	N9S0		N9S0	OSGN	N9S0	LPF7
UNPACK HP BYTES	SUM DIRECTIONS	UNPACK MID BYTES	LEFT SHIFT WORDS	SUBTRACT WORDS	ROUBDING CONSTANT	ADD 4 WORDS	RIGHT SHIFT 4 WORDS		PACK TO 8 BYTES

FIG. 18

	D=1									
H.	HIGH-PASS									
0	7-1-									
0										
0 -1/2 0										
LOW-	LOW-PASS (75%)									
0	1/8	0								
0	3/4	0								
0 1/8 0										

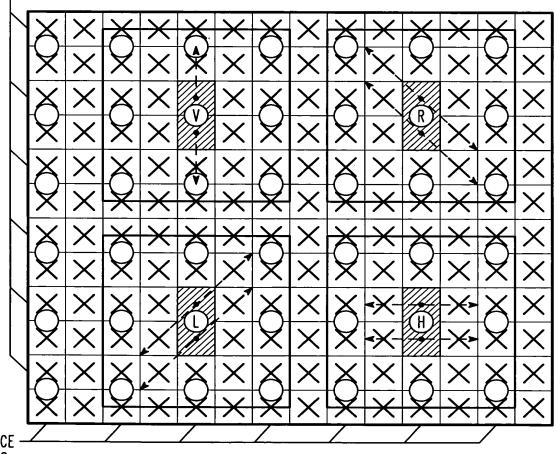
D=2								
HIGH-PASS								
-1/2	0							
2	-1/2							
-1/2	0							
LOW-PASS (50%)								
1/8	0							
1/2	1/8							
1/8	0							
	GH-PAS -1/2 2 -1/2 -PASS (1/8 1/2							

D=3									
H.	HIGH-PASS								
-1/2	-1/2	0							
-1/2	3	-1/2							
0	-1/2	-1/2							
LOW-	-PASS (25%)							
1/8	1/8	0							
1/8	1/4	1/8							
0	1/8	1/8							

D=4									
HIGH-PASS									
-1/2	-1/2	-1/2							
-1/2	4	-1/2							
-1/2	-1/2	-1/2							
LOW	-PASS	(0%)							
1/8	1/8	1/8							
1/8	0	1/8							
1/8	1/8	1/8							

FIG. 19

EVEN LUMINANCE ROWS



EVEN LUMINANCE COLUMNS

X Y PIXELS

U AND V PIXELS

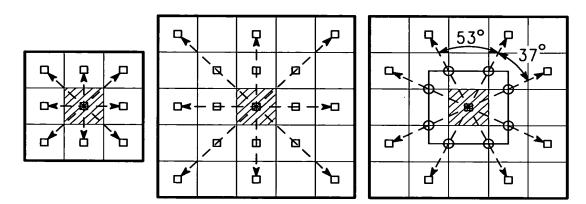
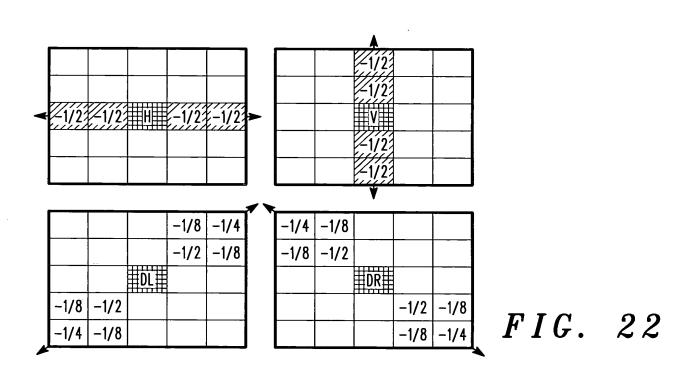


FIG. 21

Г



DL	DL	٧	DR	DR
DL	DL	٧	DR	DR
Н	Н	MID	Н	Н
DR	DR	٧	DL	DL
DR	DR	٧	DL	DL

-1/4	-1/8	-1/2	-1/8	-1/4
-1/8	-1/2	-1/2	-1/2	-1/8
-1/2	-1/2	MID	-1/2	-1/2
-1/8	-1/2	-1/2	-1/2	-1/8
-1/4	-1/8	-1/2	-1/8	-1/4

FIG. 23

13/21

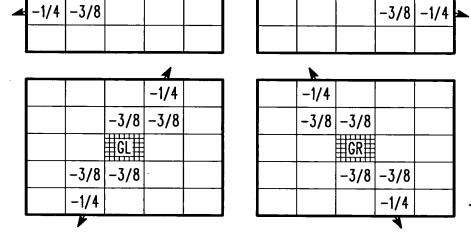
INDEX	NAME	ANGEL (DEGREES)	∆ x1, ∆ y1	∆x2, ∆y2
1	HORIZONTAL (H)	0, 180	±1, 0	± 2, 0
2	DIAGONAL LEFT (DL)	45, -135	±1, ±1	±2, ±2
3	VERTICAL (V)	± 90	0, ±1	0, ±2
4	DIAGONAL RIGHT (DR)	135, -45	∓1, ∓1	∓2, ∓2
5	LESSER ANGLE LEFT (LL)	\sim (+27), \sim (-153)	±1, ±1/2	±2, ±1
6	LESSER ANGLE RIGHT (LR)	\sim (-27), \sim (+153)	∓1, ∓1/2	∓2, ∓ 1
7	GREATER ANGLE LEFT (GL)	\sim (+63), \sim (-117)	$\pm 1/2$, ± 1	±1, ±2
8	GREATER ANGLE RIGHT (GR)	\sim (+117), \sim (-63)	∓1/2, ∓ 1	∓1, ∓2

-1/4

-3/8

-3/8 LR -3/8

 \Box FIG. 24



-3/8

-3/8 LL -3/8

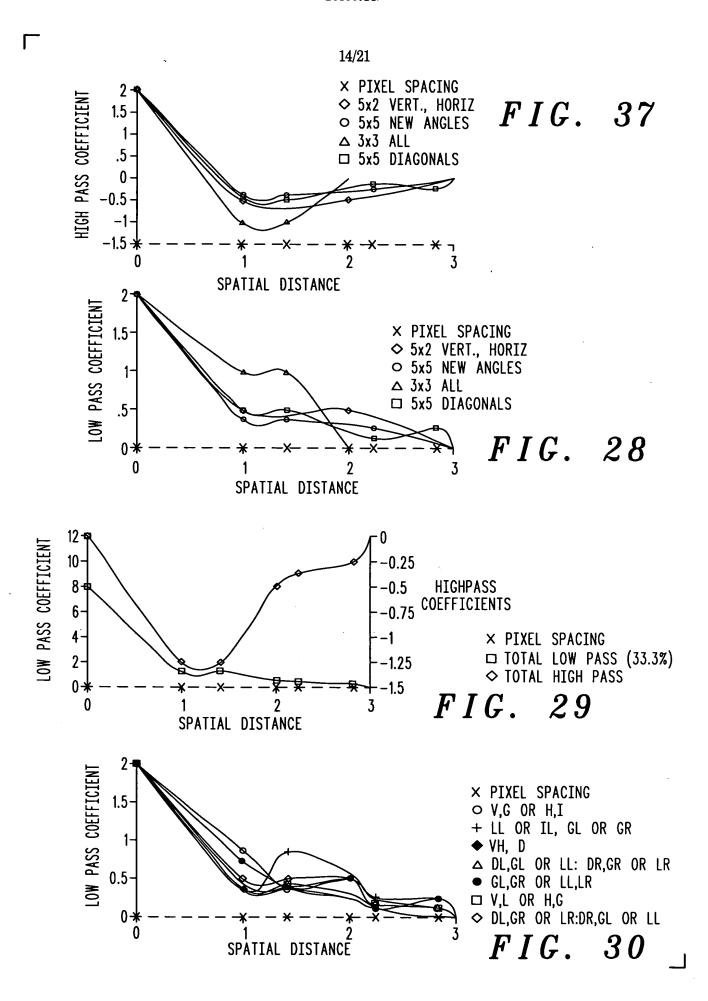
-1/4

FIG. 25

DL	DL	٧	DR GR	DR
DL LL	DL LL,GL	V GL,GR	DR LR,GR	DR LR
Н	H LL,LR	MID	H LL,LR	Н
DR LR	DR LR,GR	V GL,GR	DL LL,GL	DL LL
DR	DR GR	٧	DL GL	DL

-1/4	-3/8 -1/2 -3/8	-1/4
-3/8/	-1 1/41-1 1/41-1 1/41 	-3/8/ -3/8/
-1/2 <i>/</i>	-1 1/4 MID -1 1/4	-1/2
-3/8/	-1 1/41-1 1/41-1 1/41 	-3/8/
-1/4	-3/8/ -1/2/ -3/8	-1/4

FIG. 26



XC1X	&có&	⊗̂β3́⊗́	XB2X	⊗B 1⊗	×β0×	XA3X	XA2X	-3102
C1	CO .	<u>B</u> 3_	_B2	_B1_	_B0	A3	A2	-3104
XC1X	XCOX	XB3X	XB2X	⊗B1 ⊗	⊗ B0⊗	XA3X	XA2X	-3106
C1	co	B 3	B2	B1	BO	A3	A2	-3108
C1	ÇQ/	B3/	B2/	B1	B0/	Á3	A2	-3110

FIG. 31

		_	ω. ·	04	00	D.7	00	- D4	DA		
		K	OW i	C1	CO_	<u>B</u> 3_	_B2	_B1	_B <u>0</u>	_ A3	A2
	ROW i+1			<u>X</u> C1X	&có\$	⊗̂B3⊗́	XB2X	XB1 X	XB0X	XA3X	$\stackrel{\text{\tiny λ}}{\stackrel{\text{\tiny λ}}}{\stackrel{\text{\tiny λ}}{\stackrel{\text{\tiny λ}}{\stackrel{\text{\tiny λ}}{\stackrel{\text{\tiny λ}}}{\stackrel{\text{\tiny λ}}{\stackrel{\text{\tiny λ}}}{\stackrel{\text{\tiny λ}}{\stackrel{\text{\tiny λ}}{\stackrel{\text{\tiny λ}}}{\stackrel{\text{\tiny λ}}{\stackrel{\text{\tiny λ}}}{\stackrel{\text{\tiny λ}}}{\stackrel{\text{\tiny λ}}{\stackrel{\text{\tiny λ}}}{\stackrel{\text{\tiny λ}}}{\stackrel{\text{\tiny λ}}{\stackrel{\text{\tiny λ}}}{\stackrel{\text{\tiny λ}}{\stackrel{\text{\tiny λ}}}{\stackrel{\text{\tiny λ}}{\stackrel{\text{\tiny λ}}}{\stackrel{\text{\tiny λ}}}{\stackrel{\text{\tiny λ}}{\stackrel{\text{\tiny λ}}}{\stackrel{\text{\tiny λ}}}}}}}}}}}}}}}}}}}}$
		ROW	i+2	C1/	Ç0	B 3/	B2	B1/	B0/	A3	A2
D1	DO	C3	C2	C1	CO	B3	B2	l			
XXX	\$\$\$\$	××××	~~~~	~ <u>~</u>	~~~	××××	₩ ₩				
XVIX	XYXX	∑ [3 <u>X</u>	X U2X XXX	<u> </u>	800	XR2X	XRXX				
01/	DO/	C3/	C2/	<u> C1/</u>	Ç0	B3/	B2/				
			COLU	MN 3			COLU	MN 2		•	

FIG. 32

M1	DON'T CARE				B1	В0	A3	A2
M1=_M_PINSRW(M1, P1(i,j).W[1],2)			B3	B2	B1	B0	А3	A2
$M1 = _M_PINSRW(M1, P1(i,j+1).W[0],3)$	C1	CO	В3	B2	B1	BO	A3	A2

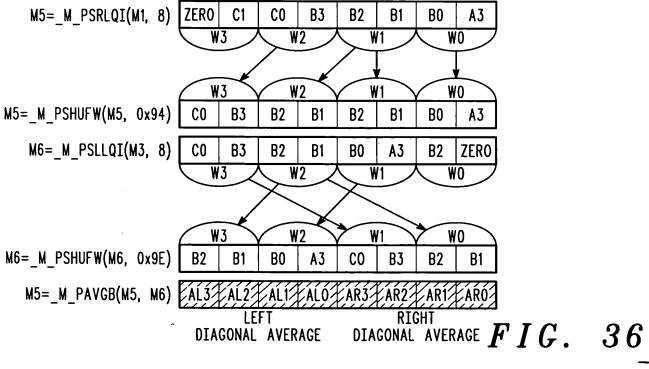
M2 DON'T CARE $B1 \times B0 \times A3 \times A2$ M2=_M_PINSRW(M2, P2(i+1,j).W[1],2) DON'T CARE $B3 \times B2 \times B1 \times B0 \times A3 \times A2$ $C1 \times C0 \times B3 \times B2 \times B1 \times B0 \times A3 \times A2$

M3 DON'T CARE B1 B0 A3 A2

M3=_M_PINSRW(M3, P3(i+2,j).W[1],2) DON'T CARE B3 B2 B1 B0 A3 A2

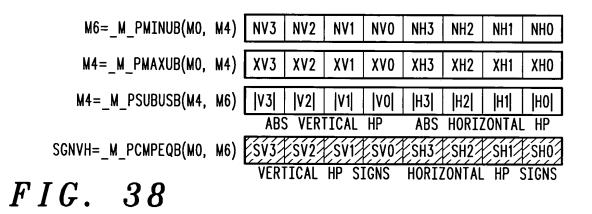
C1 C0 B3 B2 B1 B0 A3 A2

FIG. 34



17/21

B3 B2 B1 M2 CO **B0 A3 A2** W2 WI **W**3 WO FIG. 37 W3 W2 W1 WO $MO = M_PSHUFW(M2, 0x99)$ **B2 B1 B0 B3 B2 B0**



M7= M PMINUB(M0, M5) NL3 NL2 NL1 NLO NR3 NR2 NR1 NR6 M5=_M_PMAXUB(M0, M5) &XL3&XL2&XL1&XL0&XR3 M5= M PSUBUSB(M5, M7) \$\(\) \ ABS LEFT ABS RIGHT DIAGONAL HP DIAGONAL HP SGNLR=_M_PCMPEQB(MO, M7) &SL3\SL2\SL1\SL0\SL0\SK3\SK2/ LEFT DIAGONAL RIGHT DIAGONAL HP SIGNS HP SIGNS

FIG. 39

18/21

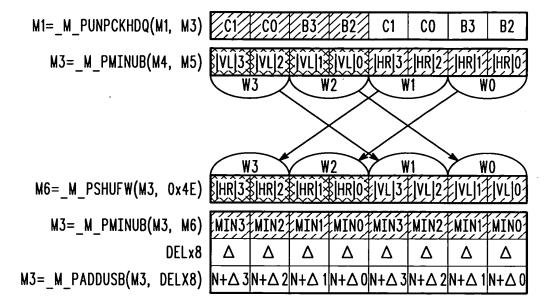


FIG. 40

 Γ

M6=_M_PMINUB(M3, M4)		[V0] [H3] [H2]	[HI] [HO]
M4=_M_PAND(M4, M6) [V3]	V2 ? V1 ?	V0 ? H3 ? H2 ?	H1 ? H0 ?
M4=_M_PAND(M4, M6)	#[v2]#[v1]	[1/0] [1/3] [1/2]	[H1] [H0]
VHX4 0x0	1 0x01 0x01	0x01 0x02 0x02	0x02 0x02
DIRVH=_M_PAND(M6, VHX4) DV3	#DV2#DV1	WILLY WILL	DH1 DHO
VERTI	CAL DIRECTION	ONS HORIZONTAL	DIRECTIONS
SGNVH=_M_PAND(M6, SGNVH)	XSV2 XSV1	SVOXSH3XSH2X	SH1X SH0
M6=_M_PCMPEQB(M4, 0) V3=0	? V2=0? V1=0?	V0=0? H3=0? H2=0?	H1=0? H0=0?
M6=_M_PANDN(M6, SGNVH)	#SV2#SV1	SVO SH3 SH2	SH1 SHO
M4=_M_PXOR(M4, M6)	¥ v2	V0 H3 H2	H1 H0
	VERTICAL 1'S COMP HP	S HORIZON COMP	TAL 1'S HP

MO=_M_PUNPCKLBW(MO, 0)	ZERO	B3	ZERO	B2	ZERO	B1	ZERO	В0
MO=_M_PSLLWI(MO, 2)	ZERO	4B3	ZER0	4B2	ZERO	4B1	ZERO	4B0
M3=_M_PUNPCKHBW(M4, M6)	ŠÝ3Š	٧3	ŠÝŽ	V2	SV1	V1	SV0	۷0
MO=_M_PSUBUSW(MO, M3)	¥B3 -	-V3X	€4B3	-¥2⊗	¥ 83	-V1X	¥¥B3	-V0X
M3=_M_PUNPCKLBW(M4, M6)	SH38	Н3	SH2	H2	SHIS	H1	SHO	НО
MO=_M_PSUBSW(MO, M3)	4B3-	ŶĤ3́	¥B3 -	-VH2×	¥83-	-VHIX	€4B3 -	-VHOX
M3=_M_PUNPCKHBW(M5, M7)	SL38	L3	SL2	L2	SL1X	L1	SLO _S	L0
MO=_M_PSUBUSW(MO, M3)	4B3-	VHL3	4B3-	VHL2	4B3-	VHL 13	4B3-	VHLO
M3=_M_PUNPCKLBW(M5, M3)	SR38	R3	SR2	R2	SR1	R1	SRO S	R0
MO=_M_PSUBUSW(MO, M3)	4B3-V	HLR3	4B3-	VHLR2	4B3-	VHLR1	4B3-\	/HLRO

FIG. 42

M7=_M_PADDB(M6, M7)	SVL3	ŚÝL2	ŚÝL1	ŚÝLO	ŚHR3	SHR2	SHR1	SHR0
M3=_M_PSLLQI(M7, 32)	SHR3	SHR2	SHR1	SHR0	ZER0	ZERO	ZERO	ZER0
M3=_M_PADDB(M3, M7)	\$1013	STOT2	STOT1	STOTO	SHR3	SHR2	SHR1	SHR0
FFX4	0xFF	0xFF	0xFF	0xFF	0x00	0x00	0x00	0x00
M3=_M_PXOR(M3, FFX4)	ŞŢÕŢ3	STOT2	ŜŢŎŤ1:	<u>stoto</u>	SHR3	SHR2	SHR1	SHR0
TOT HP SIGNS=1'S COMP								
ONEX	0x01	0x01	0x01	0x01	0x00	0x00	0x00	0x00
M3=_M_PADDB(M3, ONEX4)	ŞŢŎŢ3	STÓŤ2	ŜŢŎŤſ	STÓTO:				
	TOT H	P SIG	NS 2'S	COMF) 			~~~~
$M3 = M_PUNPCKHBW(M3, 0)$	ZERO	ŞŢŎŤ3	ZERO	ŞŢŎŢ2	ZER0	ŠŢŎŤ1	ZER0	STOTO!

20/21

MDX4	0x0002	0x0002	0x0002	0x0002			
MO=_M_PADDW(MO, MDX4)	<u> </u>	4LPF2+2	4LPF1+2 ⊗	4LPF0+2			
$MO = M_PSRLW(MO, 2)$	ZERO LPF3	ZERO LÍPFŽ	ZERO LPF1	ZERO LPFO			
MO=_M_PACKUSWB(MO, 0)	ZERO ZERO	ZERO ZERO	ĹPF3 LPF2	ĹPF1&ĹPF0			
*(LUM+ij)=_M_TO_INT(MO) \(\overline{\overline{B'3}\overline{B'2}\overline{\overline{B'1}\overline{B'0}B'							
			SMOOTHE	D BYTES			

r 16. 44

•	DVL3 DVL2 DVL1 DVL0 DHR3 DHR2 DHR1 DHR0
M7=_M_PSRLQI(M6, 32)	ZERO ZERO ZERO ZERO DVL3 DVL2 DVL1 DVL0
M7=_M_PADDB(M6, M7)	ZERO ZERO ZERO ZERO DALL3 DALL2 DALL1 DALLO
*(DIRM	MAP+ij)=_M_TO_INT(M7) DALL3 DALL2 DALL1 DALL0 DIRECTION MAP

ı

 Γ

D=1	D=2	D=3	D=4
HIGH-PASS	HIGH-PASS	HIGH-PASS	HIGH-PASS
0 0 -4 0 0	0 0 -4 0 0	0 0 -4 -1 -2	-2 -1 -4 -1 -2
0 0 -4 0 0	0 0 -4 0 0	0 0 -4 -4 -1	-1 -4 -4 -4 -1
0 0 16 0 0	-4 -4 32 -4 -4	-4 -4 48 -4 -4	-4 -4 64 -4 -4
0 0 -4 0 0	0 0 -4 0 0	-1 -4 -4 0 0	-1 -4 -4 -4 -1
0 0 -4 0 0	0 0 -4 0 0	-2 -1 -4 0 0	-2 -1 -4 -1 -2
LOW-PASS (87.5%)	LOW-PASS (75%)	LOW-PASS (62.5%)	LO₩-PASS (50%)
0 0 4 0 0	0 0 4 0 0	0 0 4 1 2	2 1 4 1 2
0 0 4 0 0	0 0 4 0 0	0 0 4 4 1	1 4 4 4 1
0 0 112 0 0	4 4 96 4 4	4 4 80 4 4	4 4 64 4 4
0 0 4 0 0	0 0 4 0 0	1 4 4 0 0	1 4 4 4 1
0 0 4 0 0	0 0 4 0 0	2 1 4 0 0	2 1 4 1 2
D=5	D=6	D=7	D=8
HIGH-PASS	HIGH-PASS	HIGH-PASS	HIGH-PASS
-2 -1 -4 -1 -2	-2 -1 -4 -1 -2	-2 -1 -4 -3 -2	-2 -3 -4 -3 -2
1 4 1 4 1 7 1 7 1			
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	-3 -7 -4 -7 -3	-3 -7 -7 -10 -3	-3 -10 -10 -10 -3
-4 -7 80 -7 -4	-4 -10 96 -10 -4	-3 -7 -7 -10 -3 -4 -10 112 -10 -4	-3 -10 -10 -10 -3 -4 -10 128 -10 -4
-4 -7 80 -7 -4 -3 -7 -4 -4 -1	-4 -10 96 -10 -4 -3 -7 -4 -7 -3	-3 -7 -7 -10 -3 -4 -10 112 -10 -4 -3 -10 -7 -7 -3	-3 -10 -10 -10 -3 -4 -10 128 -10 -4 -3 -10 -7 -10 -6
-4 -7 80 -7 -4 -3 -7 -4 -4 -1 -2 -1 -4 -1 -2	-4 -10 96 -10 -4 -3 -7 -4 -7 -3 -2 -1 -4 -1 -2	-3 -7 -7 -10 -3 -4 -10 112 -10 -4 -3 -10 -7 -7 -3 -2 -3 -4 -1 -2	-3 -10 -10 -10 -3 -4 -10 128 -10 -4 -3 -10 -7 -10 -6 -2 -3 -4 -3 -2
-4 -7 80 -7 -4 -3 -7 -4 -4 -1 -2 -1 -4 -1 -2 LOW-PASS (37.5%)	-4 -10 96 -10 -4 -3 -7 -4 -7 -3 -2 -1 -4 -1 -2 LOW-PASS (25%)	-3 -7 -7 -10 -3 -4 -10 112 -10 -4 -3 -10 -7 -7 -3 -2 -3 -4 -1 -2 LOW-PASS (12.5%)	-3 -10 -10 -10 -3 -4 -10 128 -10 -4 -3 -10 -7 -10 -6 -2 -3 -4 -3 -2 LOW-PASS (0%)
-4 -7 80 -7 -4 -3 -7 -4 -4 -1 -2 -1 -4 -1 -2 LOW-PASS (37.5%) 2 1 4 1 2	-4 -10 96 -10 -4 -3 -7 -4 -7 -3 -2 -1 -4 -1 -2 LOW-PASS (25%) 2 1 4 1 2	-3 -7 -7 -10 -3 -4 -10 112 -10 -4 -3 -10 -7 -7 -3 -2 -3 -4 -1 -2 LOW-PASS (12.5%) 2 1 4 3 2	-3 -10 -10 -10 -3 -4 -10 128 -10 -4 -3 -10 -7 -10 -6 -2 -3 -4 -3 -2 LOW-PASS (0%) 2 3 4 3 2
-4 -7 80 -7 -4 -3 -7 -4 -4 -1 -2 -1 -4 -1 -2 LOW-PASS (37.5%) 2 1 4 1 2 1 4 4 7 3	-4 -10 96 -10 -4 -3 -7 -4 -7 -3 -2 -1 -4 -1 -2 LOW-PASS (25%) 2 1 4 1 2 3 7 4 7 3	-3 -7 -7 -10 -3 -4 -10 112 -10 -4 -3 -10 -7 -7 -3 -2 -3 -4 -1 -2 LOW-PASS (12.5%) 2 1 4 3 2 3 7 7 10 3	-3 -10 -10 -10 -3 -4 -10 128 -10 -4 -3 -10 -7 -10 -6 -2 -3 -4 -3 -2 LOW-PASS (0%) 2 3 4 3 2 3 10 10 10 3
-4 -7 80 -7 -4 -3 -7 -4 -4 -1 -2 -1 -4 -1 -2 LOW-PASS (37.5%) 2 1 4 1 2 1 4 4 7 3 4 7 48 7 4	-4 -10 96 -10 -4 -3 -7 -4 -7 -3 -2 -1 -4 -1 -2 LOW-PASS (25%) 2 1 4 1 2 3 7 4 7 3 4 10 32 10 4	-3 -7 -7 -10 -3 -4 -10 112 -10 -4 -3 -10 -7 -7 -3 -2 -3 -4 -1 -2 LOW-PASS (12.5%) 2 1 4 3 2 3 7 7 10 3 4 10 16 10 4	-3 -10 -10 -10 -3 -4 -10 128 -10 -4 -3 -10 -7 -10 -6 -2 -3 -4 -3 -2 LOW-PASS (0%) 2 3 4 3 2 3 10 10 10 3 4 10 0 10 4
-4 -7 80 -7 -4 -3 -7 -4 -4 -1 -2 -1 -4 -1 -2 LOW-PASS (37.5%) 2 1 4 1 2 1 4 4 7 3	-4 -10 96 -10 -4 -3 -7 -4 -7 -3 -2 -1 -4 -1 -2 LOW-PASS (25%) 2 1 4 1 2 3 7 4 7 3	-3 -7 -7 -10 -3 -4 -10 112 -10 -4 -3 -10 -7 -7 -3 -2 -3 -4 -1 -2 LOW-PASS (12.5%) 2 1 4 3 2 3 7 7 10 3	-3 -10 -10 -10 -3 -4 -10 128 -10 -4 -3 -10 -7 -10 -6 -2 -3 -4 -3 -2 LOW-PASS (0%) 2 3 4 3 2 3 10 10 10 3

FIG. 46